

Abstract:

A second interlayer insulation layer (15) is formed under an upper wiring electrode (16) serving as a power feed line to an upper electrode (13) in each thin-film type electron source array so as to prevent a failure of short-circuit. Further, an electron emission portion is limited by the second interlayer insulation layer (15) so as to cover defects unevenly distributed in the border between an electron acceleration layer (12) and a first interlayer insulation layer (14). Thus, a failure of time dependent insulation breakdown is suppressed.